

Notice of Allowability

Application No.

09/394,514

Examiner

C. Michelle Tarae

Applicant(s)

OGAWA ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to communicated received on October 26, 2006.
2. ☒ The allowed claim(s) is/are 1,3,4 and 6-13.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2300

ALLOWANCE

1. The following is an Allowance in response to the After Final Amendment submitted on October 26, 2006. Claims 1, 6 and 13 are currently amended. Claims 1, 3-4, 6-13 are now pending in this application.

Reasons for Allowance

2. Claims 1, 3-4, 6-13 are allowed.
3. The following is an examiner's statement of reasons for allowance: None of the prior art of record, taken individually or in any combination, teach, *inter alia*, a system *consisting of*: an antenna having a predetermined directivity for providing a limited radio-communication service zone that extends from the antenna and covers at least a portion of the area of a lane under the antenna, and which length is set to a distance which approximates a single vehicle; a single vehicle sensor positioned within said service zone at a location closer to oncoming vehicles than said antenna by a predetermined interval for detecting a vehicle which reaches a predetermined position in the limited radio-communication service zone, the predetermined position being defined by the location of the vehicle sensor such that only one vehicle is within said service zone and sensed by said vehicle sensor at any one time; means for continuously transmitting a radio signal via the antenna independently of whether or not the vehicle sensor detects the vehicle; means for deciding whether or not a radio response from a vehicle to the radio signal is received via the antenna; means for, in cases where the second means decides that a radio response to the radio signal is received, judging that

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there is an ETC vehicle coming into the limited radio-communication service zone in response to the detection of a vehicle by said sensor within said service zone; and means for, in cases where the vehicle sensor detects a vehicle while the second means decides that a radio response to the radio signal is not received, judging that there is a non-ETC vehicle coming into the limited radio-communication service zone.

The preambles of all the independent allowed claims include the transitional phrase, *consisting of*, thereby excluding any elements not specified in the claims. In re Gray, 53 F.2d 520, 11 USPQ 255 (CCPA 1931); Ex parte Davis, 80 USPQ 448, 450 (Bd. App. 1948)

The prior art most closely resembling Applicant's claimed invention are as follows: O'Connor et al. (U.S. 5,648,767), Ono et al. (U.S. 5,686,906) and Tsuda (U.S. 5,933,096).

O'Connor et al. teaches transponder detection system for detecting the presence at a detection area of a vehicle that has a transponder. The system includes antennae, vehicles sensors, and signaling means for determining whether or not there is a vehicle with a transponder present. However, the system of O'Connor et al. discloses multiple antennae and multiple vehicle sensors. Thus, O'Connor et al. does not teach a system *consisting of*: an antenna having a predetermined directivity for providing a limited radio-communication service zone that extends from the antenna and covers at least a

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portion of the area of a lane under the antenna, and which length is set to a distance which approximates a single vehicle; a single vehicle sensor positioned within said service zone at a location closer to oncoming vehicles than said antenna by a predetermined interval for detecting a vehicle which reaches a predetermined position in the limited radio-communication service zone, the predetermined position being defined by the location of the vehicle sensor such that only one vehicle is within said service zone and sensed by said vehicle sensor at any one time; means for continuously transmitting a radio signal via the antenna independently of whether or not the vehicle sensor detects the vehicle; means for deciding whether or not a radio response from a vehicle to the radio signal is received via the antenna; means for, in cases where the second means decides that a radio response to the radio signal is received, judging that there is an ETC vehicle coming into the limited radio-communication service zone in response to the detection of a vehicle by said sensor within said service zone; and means for, in cases where the vehicle sensor detects a vehicle while the second means decides that a radio response to the radio signal is not received, judging that there is a non-ETC vehicle coming into the limited radio-communication service zone.

Ono et al. teaches a system for monitoring moving vehicles that includes an antenna, vehicle sensor, and radio communication means for determining if the moving vehicle has a communication means on it or not. However, Ono et al. does not teach a system *consisting of*: an antenna having a predetermined directivity for providing a

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limited radio-communication service zone that extends from the antenna and covers at least a portion of the area of a lane under the antenna, and which length is set to a distance which approximates a single vehicle; a single vehicle sensor positioned within said service zone at a location closer to oncoming vehicles than said antenna by a predetermined interval for detecting a vehicle which reaches a predetermined position in the limited radio-communication service zone, the predetermined position being defined by the location of the vehicle sensor such that only one vehicle is within said service zone and sensed by said vehicle sensor at any one time; means for continuously transmitting a radio signal via the antenna independently of whether or not the vehicle sensor detects the vehicle; means for deciding whether or not a radio response from a vehicle to the radio signal is received via the antenna; means for, in cases where the second means decides that a radio response to the radio signal is received, judging that there is an ETC vehicle coming into the limited radio-communication service zone in response to the detection of a vehicle by said sensor within said service zone; and means for, in cases where the vehicle sensor detects a vehicle while the second means decides that a radio response to the radio signal is not received, judging that there is a non-ETC vehicle coming into the limited radio-communication service zone.

Tsuda teaches a non-stop automatic toll collection system for exchanging information by radio between a vehicle-mounted device located in a vehicle and a toll station. The toll collection system includes an antenna, vehicle sensor, and radio communication means for determining if the moving vehicle has a communication

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means on it or not. However, Tsuda does not teach a system *consisting of*: an antenna having a predetermined directivity for providing a limited radio-communication service zone that extends from the antenna and covers at least a portion of the area of a lane under the antenna, and which length is set to a distance which approximates a single vehicle; a single vehicle sensor positioned within said service zone at a location closer to oncoming vehicles than said antenna by a predetermined interval for detecting a vehicle which reaches a predetermined position in the limited radio-communication service zone, the predetermined position being defined by the location of the vehicle sensor such that only one vehicle is within said service zone and sensed by said vehicle sensor at any one time; means for continuously transmitting a radio signal via the antenna independently of whether or not the vehicle sensor detects the vehicle; means for deciding whether or not a radio response from a vehicle to the radio signal is received via the antenna; means for, in cases where the second means decides that a radio response to the radio signal is received, judging that there is an ETC vehicle coming into the limited radio-communication service zone in response to the detection of a vehicle by said sensor within said service zone; and means for, in cases where the vehicle sensor detects a vehicle while the second means decides that a radio response to the radio signal is not received, judging that there is a non-ETC vehicle coming into the limited radio-communication service zone.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- JP (10040433 A) discusses a toll collection system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Michelle Tarae whose telephone number is 571-272-6727. The examiner can normally be reached Monday – Friday from 8:30am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz, can be reached at 571-272-6729.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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November 21, 2006



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